

WHAT IS CLAIMED IS:

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1. A meta-data registration method, comprising the steps of:
    - 5 detecting a data type of registering data to be registered into a data server that registers and manages data and meta-data for data;  
selecting one procedure corresponding to the data type detected by the detecting step, from a plurality of
    - 10 procedures provided in correspondence to respective data types and stored in advance, each procedure having a program code for generating the meta-data for data according to a corresponding data type;  
generating the meta-data for the registering data by
    - 15 executing the program code of said one procedure selected by the selecting step; and  
registering the meta-data generated by the generating step in relation to the registering data into the data server.
    - 20
  2. The method of claim 1, wherein each procedure also contains information for specifying types of the meta-data to be generated according to the corresponding data type, and each procedure is designed to generate names and values
  - 25 of the meta-data in types specified by said information.
  3. The method of claim 2, wherein the plurality of procedures are designed such that those meta-data that are generated by different procedures but that have an
  - 30 identical meaning to an application or a user will be given an identical name.
  4. The method of claim 2, wherein a value of the meta-data is generated by extracting at least one of information
  - 35 contained in the registering data and separately stored

information that is acquired according to the information contained in the registering data.

5. The method of claim 1, wherein the detecting step  
5 detects the data type by checking at least one of information contained in a registration request for the registering data issued to the data server, information contained in the registering data, and a type of a device from which the registering data are entered.

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6. The method of claim 1, further comprising the steps of:

carrying out at least one of a processing for  
generating one meta-data indicating non-existence of a  
15 corresponding procedure and registering said one meta-data in relation to the registering data, and a processing for notifying the non-existence of the corresponding procedure to an application or a user, when the corresponding  
procedure of the data type detected by the detecting step  
20 does not exist among the plurality of procedures stored in advance.

7. The method of claim 1, wherein the plurality of  
procedures includes a first procedure corresponding to  
25 structured documents, which contains a structure information indicating a structure as a type of the meta-data to be generated, extracts a portion specified by the structure information from a document represented by the registering data, and generates the meta-data given by an  
30 extracted portion in correspondence to a name specified by the first procedure.

8. The method of claim 7, wherein the first procedure  
defines the structure information for each definition  
35 information that defines a document structure, and is

designed such that those meta-data that are generated from different documents using different definition information but that have an identical meaning to an application or a user will be given an identical name.

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9. The method of claim 1, wherein the data server manages data using directories, and the method further comprises the steps of:

10 additionally selecting another procedure corresponding to one directory for containing data to be added or deleted, from another plurality of procedures provided in correspondence to respective directories and stored in advance, each of the another plurality of procedures having another program code for generating directory meta-data  
15 that can be utilized in managing a corresponding directory, when a new data is to be added to or an existing data is to be deleted from the data server;

20 additionally generating new directory meta-data by executing the another program code of the another procedure selected by the additionally selecting step; and

updating the directory meta-data already registered in relation to said one directory to the new directory meta-data generated by the additionally generating step.

25 10. The method of claim 1, wherein the data server manages data using directories, and the method further comprises the steps of:

30 notifying an application or a user that issued a registration request for the registering data to the data server when the meta-data generated for the registering data does not match with the directory meta-data that is used in managing one directory for containing the registering data.

35 11. The method of claim 1, wherein the data server manages

data using directories, and the method further comprises the steps of:

5 registering the meta-data generated for the  
registering data in relation to the registering data when  
the meta-data generated for the registering data does not  
match with directory meta-data that is used in managing one  
directory for containing the registering data, and not  
registering the meta-data generated for the registering  
data otherwise.

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12. The method of claim 11, wherein further comprising the step of:

managing the registering data at the data server by  
using the meta-data registered in relation to the  
15 registering data when the meta-data registered in relation  
to the registering data exists, or by using the meta-data  
for said one directory otherwise.

13. A meta-data registration device, comprising:  
20 a detection unit configured to detect a data type of  
registering data to be registered into a data server that  
registers and manages data and meta-data for data;

a selection unit configured to select one procedure  
corresponding to the data type detected by the detection  
25 unit, from a plurality of procedures provided in  
correspondence to respective data types and stored in  
advance, each procedure having a program code for  
generating the meta-data for data according to a  
corresponding data type; and

30 an output unit configured to output the meta-data for  
the registering data generated by executing the program  
code of said one procedure selected by the selection unit,  
to the data server.

35 14. The meta-data registration device of claim 13, further

comprising:

5 a generation unit configured to generate the meta-data for the registering data by executing the program code of said one procedure selected by the selection unit, wherein the output unit registers the meta-data generated by the generation unit in relation to the registering data into the data server.

10 15. The meta-data registration device of claim 13, further comprising:

15 an acquisition unit configured to acquire the meta-data for the registering data generated by executing the program code of said one procedure selected by the selection unit, wherein the output unit registers the meta-data for the registering data acquired by the acquisition unit in relation to the registering data into the data server.

16. A data server device, comprising:

20 a request processing unit configured to receive and process a registration request for registering data to be registered into the data server device;

25 a management unit configured to register the registering data according to the registration request and manage data and meta-data for data;

a detection unit configured to detect a data type of the registering data;

30 a selection unit configured to select one procedure corresponding to the data type detected by the detection unit, from a plurality of procedures provided in correspondence to respective data types and stored in advance, each procedure having a program code for generating the meta-data for data according to a corresponding data type;

35 a generation unit configured to generate the meta-data

for the registering data by executing the program code of said one procedure selected by the selection unit; and

5 a registration unit configured to register the meta-data generated by the generation unit into the management unit.

17. A computer usable medium having computer readable program codes embodied therein for causing a computer to function as a meta-data registration device, the computer  
10 readable program codes include:

a first computer readable program code for causing said computer to detect a data type of registering data to be registered into a data server that registers and manages data and meta-data for data;

15 a second computer readable program code for causing said computer to select one procedure corresponding to the data type detected by the second computer readable program code, from a plurality of procedures provided in correspondence to respective data types and stored in advance, each procedure having a program code for  
20 generating the meta-data for data according to a corresponding data type; and

a third computer readable program code for causing said computer to output the meta-data for the registering  
25 data generated by executing the program code of said one procedure selected by the second computer readable program code, to the data server.

18. The computer usable medium of claim 17, wherein the  
30 computer readable program codes further include:

a fourth computer readable program code for causing said computer to generate the meta-data for the registering data by executing the program code of said one procedure selected by the second computer readable program code,  
35 wherein the third computer readable program code registers

the meta-data generated by the fourth computer readable program code in relation to the registering data into the data server.

- 5 19. The computer usable medium of claim 17, wherein the computer readable program codes further include:

10 a fourth computer readable program code for causing said computer to acquire the meta-data for the registering data generated by executing the program code of said one procedure selected by the selection unit, wherein the third computer readable program code registers the meta-data for the registering data acquired by the fourth computer readable program code in relation to the registering data into the data server.

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20. A computer usable medium having computer readable program codes embodied therein for causing a computer to function as a data server device, the computer readable program codes include:

- 20 a first computer readable program code for causing said computer to receive and process a registration request for registering data to be registered into the data server device;

25 a second computer readable program code for causing said computer to register the registering data according to the registration request and manage data and meta-data for data;

30 a third computer readable program code for causing said computer to detect a data type of the registering data;

35 a fourth computer readable program code for causing said computer to select one procedure corresponding to the data type detected by the third computer readable program code, from a plurality of procedures provided in correspondence to respective data types and stored in

advance, each procedure having a program code for generating the meta-data for data according to a corresponding data type;

5 a fifth computer readable program code for causing said computer to generate the meta-data for the registering data by executing the program code of said one procedure selected by the fourth computer readable program code; and

10 a sixth computer readable program code for causing said computer to register the meta-data generated by the fifth computer readable program code into the second computer readable program code.

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